



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,459	05/16/2006	Masayoshi Suzuki	WATAB5.001APC	3399
20995	7590	10/17/2007		
KNOBBE MARTENS OLSON & BEAR LLP 2040 MAIN STREET FOURTEENTH FLOOR IRVINE, CA 92614			EXAMINER DUPUIS, DEREK L	
			ART UNIT 2883	PAPER NUMBER
			NOTIFICATION DATE 10/17/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcartee@kmob.com  
eOAPilot@kmob.com

## Office Action Summary

**Application No.**

10/579,459

**Applicant(s)**

SUZUKI ET AL.

**Examiner**

Derek L. Dupuis

**Art Unit**

2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 21-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 and 25-28 is/are rejected.
- 7) ☒ Claim(s) 1 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/16/2006</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election without traverse of Group I (claims 1-20 and 25-28) in the reply filed on 7/26/2007 is acknowledged.
2. Claims 21-24 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 7/26/2007.

### *Priority*

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Drawings*

4. The drawings were received on 5/16/2006. These drawings are accepted.

### *Information Disclosure Statement*

5. The information disclosure statement (IDS) submitted on 5/16/2006 has been considered by the examiner.

### *Claim Objections*

6. Claim 1 is objected to because of the following informalities: the phrase "having refractive-index matching property" should apparently be "having a refractive-index matching property". Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2883

8. Claims 15 and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
9. Claim 15 recites the limitation "the supporting member" in line 2. There is insufficient antecedent basis for this limitation in the claim.
10. Claim 15 recites the limitation "the split sleeve" in line 3. There is insufficient antecedent basis for this limitation in the claim.
11. Claim 27 recites the limitation "the supporting member" in line 2. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claims 1, 3-7, 9, 10, 12, 13, 17-19, 26, and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by *Yasuhiro et al (JP 2001-124958)* (as cited in the IDS).
14. Regarding claim 1, Yasuhiro et al teach an optical connection structure as shown in figures 1 and 2. The structure includes a solid viscous connection member (2) having a refractive index matching that of the optical transmission media (1) (see lines 9-14 of the English translation abstract). The connection member is adheringly disposed in a single layer between the end face of and optical transmission media (1) and an optical component (5) that are mutually opposing as shown in figure 2.

15. Regarding claims 3-5, Yasuhiro et al teach an optical connection structure as discussed above in reference to claim 1. Yasuhiro et al teach that the connection member is a sheet shape (see lines 4 and 5 of the English translation abstract) and that it is a silicon resin (see line 12 of the English translation abstract). Because the connection member of the prior art is the same material as that being claimed, it is understood that it would have the same material properties, such as a viscosity retention distance of 10 microns or more.

16. Regarding claim 6, Yasuhiro et al teach an optical connection structure as discussed above in reference to claim 5. As shown in figures 1 and 2, the minimum value D of the distance from the center of the end face of the optical transmission medium contacting the sheet-shaped connection member to the periphery of the connection member satisfies the relationship of  $R < D \leq 60R$  where "R" is the radius of the transmission medium.

17. Regarding claims 7 and 26, Yasuhiro et al teach an optical connection structure as discussed above in reference to claims 5 and 6 respectively. As shown in figure 1, the periphery of the connection member (2) is supported by a supporting member (3).

18. Regarding claim 9, Yasuhiro et al teach an optical connection structure as discussed above in reference to claim 1. The optical transmission medium (1) and the optical component (5) are butted against each other as shown in figure 1 by using an alignment member (4).

19. Regarding claim 10, Yasuhiro et al teach an optical connection structure as discussed above in reference to claim 1. The optical transmission medium (1) and the optical component (5) are inserted and affixed in an optical fiber alignment hole provided in a ferrule (3 and 4). The ferrules (3 and 4) are butted up against one another in a manner sandwiching the viscous connection member (2) as shown in figure 1.

20. Regarding claims 12 and 17, Yasuhiro et al teach an optical connection structure as discussed above in reference to claim 10. The connection member (2) is supported by a supporting member (3) which is a tubular member with one end supporting the connection member (2) and the other end being fitted into the adapter (4) to achieve optical connection as shown in figure 1.

21. Regarding claims 13 and 28, Yasuhiro et al teach an optical connection structure as discussed above in reference to claim 10. The connection member (2) is supported by a supporting member (3) which is a tubular member with one end supporting the connection member (2) and the other end being fitted into the adapter (4) to achieve optical connection as shown in figure 1. The plug is installed in an adapter (4) and sandwiches the connection member between the plug and the optical component (5).

22. Regarding claims 18 and 19, Yasuhiro et al teach an optical connection structure as discussed above in reference to claim 1. The connection member can flexibly change its shape (see lines 4 and 5 of the English translation of the abstract). The connection member (2) is supported by a supporting member (3) and the connection structure is characterized in that the end faces of the optical transmission media (1 and 5) sandwich the connection member (2) so as to optically connect the transmission media (1 and 5). The transmission media (1 and 5) are located within the groove of an alignment member (4). The supporting member (3) is inserted above the main groove/bore. A second groove (larger bore) runs perpendicular to the through-bore that holds the transmission media. The supporting member is placed within the second groove.

***Claim Rejections - 35 USC § 103***

23. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

24. Claims 2, 8, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Yasuhiro et al (JP 2001-124958)* as applied above to claims 1, 3-7, 9, 10, 12, 13, 17-19, 26, and 28.

25. Regarding claims 2 and 25, Yasuhiro et al teach an optical connection structure as discussed above in reference to claim 1. Yasuhiro et al teach that the connection member is a sheet shape (see lines 4 and 5 of the English translation abstract) and that it is a silicon resin (see line 12 of the English translation abstract). Because the connection member of the prior art is the same material as that being claimed, it is understood that it would have the same material properties, such as a viscosity retention distance of 10 microns or more.

26. While Yasuhiro et al do not teach that the thickness of the connection member is 50 microns or less, it would have been obvious to use a thickness in this range since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

27. Regarding claim 8, Yasuhiro et al teach an optical connection structure as discussed above in reference to claim 1. Yasuhiro et al do not explicitly teach that the connecting structure satisfies the relationship of  $D_1 \geq r$  and  $D_2 \leq R$ , where  $D_1$  is the minimum distance from the center of the core of the transmission medium to the periphery of the connection member,  $D_2$  is the

Art Unit: 2883

maximum distance from the center of the core of the transmission medium to the periphery of the connection member,  $r$  is the radius of the core of the transmission medium and  $R$  is the radius of the transmission medium. However, it would have been obvious to use a structure satisfying such a range since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. In *re Aller*, 105 USPQ 233.

28. Claims 11, 14-16, 20, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Yasuhiro et al (JP 2001-124958)* as applied to claims 1-10, 12, 13, 17-19, 25, 26, and 28 above, and further in view of *Ochiai et al (US 5,647,042)*.

29. Regarding claims 11, 14-16, 20, and 27, Yasuhiro et al teach an optical connection structure as discussed above in reference to claims 10, 13, and 19 respectively. Yasuhiro et al do not explicitly teach a positioning structure for aligning the ferrules.

30. Ochiai et al teach an optical connection structure including a positioning means comprising a pin (10) that aligns with a guide hole (8b) to couple two optical elements as shown in figure 2. Ochiai et al teach an optical connection structure including a split sleeve to hold the connector elements.

31. It would have been obvious to one of ordinary skill in the art at the time of invention to modify the connection structure of Yasuhiro et al to include an alignment pin and a split sleeve as taught by Ochiai et al. Motivation would be to ensure that the transmission media precisely face one another (see column 9, lines 9-14 of Ochiai et al).



Art Unit: 2883

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derek L. Dupuis whose telephone number is (571) 272-3101. The examiner can normally be reached on Monday - Thursday 8:30am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G. Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Derek L. Dupuis  
Group Art Unit 2883



Frank G. Font  
Supervisory Patent Examiner  
Technology Center 2300